



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/551,945	10/05/2005	Manfred Schorghuber	SCHORGHUBER ET AL 1 PCT	3616
25889	7590	12/21/2010	EXAMINER	
COLLARD & ROE, P.C. 1077 NORTHERN BOULEVARD ROSLYN, NY 11576			NGUYEN, HUNG D	
			ART UNIT	PAPER NUMBER
			3742	
			MAIL DATE	DELIVERY MODE
			12/21/2010	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/551,945	<b>Applicant(s)</b> SCHORGHUBER ET AL.	
	<b>Examiner</b> HUNG NGUYEN	<b>Art Unit</b> 3742	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 04 October 2010.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-9, 11-15 and 17 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-9, 11-15 and 17 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 February 2009 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |                                                                                     |                                                                   |
|-------------------------------------------------------------------------------------|-------------------------------------------------------------------|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                    | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)         | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____                                                         | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. **Claims 1-5, 15 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Taylor et al. (US 3,901,425) in view of Jeannette (US Pat. 3,384,778), Ueyama et al. (US Pat 4,102,483) and Bryce et al. (US Pat 4,187,411) (all previously cited).**

3. Regarding claims 1 and 2, Taylor et al. discloses a buffer device for a welding wire 12 (Fig. 1), wherein a wire buffer storage 16 (Fig. 1) is arranged between a wire feeder 14 (Fig. 1) provided on the welding apparatus (Fig. 1), and a further wire feeder 18 (Fig. 1) arranged within the welding torch 20 (Fig. 1) and the welding wire 12 (Fig. 1) is conducted between the two wire feeders 14 and 18 (Fig. 1) within the wire core 98 (Fig. 2), where in the wire buffer storage 16 (Fig. 1) is designed in a manner that the wire core 98 (Fig. 2) is fastened on one end in the region of the welding apparatus (Fig. 3, Col. 6 Lines 38-47), wherein the wire core 98 (Fig. 2) together with the welding wire 12 (Fig. 1), at least over a partial region, is arranged to be freely movable within a wire guide hose 96 (Fig 2) having a substantially larger cross section of the wire core 98 (Fig 2), and wherein the storage volume of the wire buffer storage 16 (Fig. 1) is defined by

Art Unit: 3742

the cross section and the length of the substantially larger wire guide hose 96 (Fig. 2).

Taylor et al. does not disclose the wire core with its other end being freely movable; a wire guide hose extending in a spiral shape manner; and wherein means for detecting the filling level or quantity of welding wire of the wire buffer storage are arranged, said detection means detecting the longitudinal movement of the wire core and, in particular, the free end of the wire core. Jeannette discloses the wire core 34 (Fig. 1) with its other end freely movable. Ueyama et al. discloses a wire guide hose will have less contact area, less friction resistance and less wire guide load if it extends in a spiral manner in the wire hose (Fig. 18; Col. 1, Lines 20-30; Col. 4, line 22-35). Bryce et al. disclose a module 12 (Fig. 1) to monitor the stick-out distance 11 (Fig.1) of the welding wire 2 (Fig.1) beyond the tip 10 (Fig. 1) of the welding torch 1 (Fig.1, Col. 6 Lines 6-9). It would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify Taylor et al., the wire core with its other end freely movable, as taught by Jeannette, for the purpose of forwarding and retracting the welding wire; to extend the wire hose in a spiral-shaped manner within the hose package, as taught by Ueyama et al., for the purpose of providing less contact area, less friction resistance and less wire guide load; and wherein means for detecting the filling level or quantity of welding wire of the wire buffer storage are arranged, said detection means detecting the longitudinal movement of the wire core and, in particular, the free end of the wire core, as taught by Bryce et al., for the purpose of determining how much welding wire is left.

4. Regarding claim 3, Taylor et al. discloses substantially all features of the claimed invention as set forth above except for the inner diameter of the wire guide hose is at

Art Unit: 3742

least 1.5 times larger than an outer diameter of the wire core. Taylor et al. shows the wire guide hose 96 (Fig. 2) is larger than the wire core 98 (Fig. 2). It would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify Taylor et al to modify the inner diameter of the wire guide hose is at least 1.5 times larger than an outer diameter of the wire core for the purpose of allowing sufficient space in the hose for the wire to freely move.

5. Regarding claim 4, Taylor et al. further discloses the wire guide hose 96 (Fig. 2) is arranged with in a hose package 16 (Fig. 1).

6. Regarding claim 5, Taylor et al. further discloses the wire guide hose 96 (Fig. 2) extends with in a hose package 16 (Fig. 1).

7. Regarding claim 7, Bryce et al. discloses a wire guide hose 4 (Fig. 1) is arranged outside a hose package 9 (Fig.1).

8. Regarding claim 15, Taylor et al. discloses a welding plant including a welding apparatus (Fig 1), a hose package 16 (Fig. 1) and a welding torch 20 (Fig .1), wherein the hose package 16 (Fig. 1) connects the welding torch 20 (Fig. 1) with the welding apparatus (Fig. 1), and a device designed as a wire buffer storage 16 (Fig. 1) and arranged between two wire feeders 14 and 18 (Fig 1), wherein said wire buffer storage is 16 (Fig. 1) formed in the hose package 16 (Fig. 1); where in the wire buffer storage 16 (Fig. 1) is designed in a manner that the wire core 98 (Fig. 2) is fixed on one end in the region of the welding apparatus (Fig. 3, Col. 6 Lines 38-47), wherein the wire core 98 (Fig. 2) together with the welding wire 12 (Fig. 1), at least over a partial region, is arranged to be freely movable within a wire guide hose 96 (Fig 2) having a substantially

Art Unit: 3742

larger cross section of the wire core 98 (Fig 2), and wherein the storage volume of the wire buffer storage 16 (Fig. 1) is defined by the cross section and the length of the substantially larger wire guide hose 96 (Fig. 2). Taylor et al. does not disclose the wire core with its other end being freely movable; a wire guide hose extending in a spiral shape manner; and wherein means for detecting the filling level or quantity of welding wire of the wire buffer storage are arranged, said detection means detecting the longitudinal movement of the wire core and, in particular, the free end of the wire core. Jeannette discloses the wire core 34 (Fig. 1) with its other end freely movable. Ueyama et al. discloses a wire guide hose extending in a spiral shape manner (Fig. 18; Col. 1, Lines 20-30; Col. 4, line 22-35). Bryce et al. disclose a module 12 (Fig. 1) to monitor the stick-out distance 11 (Fig.1) of the welding wire 2 (Fig.1) beyond the tip 10 (Fig. 1) of the welding torch 1 (Fig.1, Col. 6 Lines 6-9). It would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify Taylor et al., the wire core with its other end freely movable, as taught by Jeannette, for the purpose of forwarding and retracting the welding wire; to extend the wire hose in a spiral-shaped manner within the hose package, as taught by Ueyama et al., for the purpose of providing less contact area, less friction resistance and less wire guide load; and wherein means for detecting the filling level or quantity of welding wire of the wire buffer storage are arranged, said detection means detecting the longitudinal movement of the wire core and, in particular, the free end of the wire core, as taught by Bryce et al., for the purpose of determining how much welding wire is left.

9. Regarding claim 17, Taylor et al. further discloses a welding plant including a welding apparatus (Fig 1), a hose package 16 (Fig. 1) and a welding torch 20 (Fig. 1), wherein the hose package 16 (Fig. 1) connects the welding torch 20 (Fig. 1) with the welding apparatus (Fig. 1), and a device designed as a wire buffer storage 16 (Fig. 1) and arranged between two wire feeders 14 and 18 (Fig 1), wherein said wire buffer storage 16 (Fig. 1) is formed in the hose package 16 (Fig. 1).

10. **Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Taylor et al. (US 3,901,425) in view of Jeannette (US Pat. 3,384,778), Ueyama et al. (US Pat 4,102,483), Bryce et al. (US Pat 4,187,411) and further view of Tomiyasu et al. (US Pub. 2005/0150883) (previously cited).**

11. Regarding claim 6, Taylor/ Jeannette/Ueyama/ Bryce discloses substantially all features of the claimed invention as set forth above including from Taylor, lines conduit (Col. 4 Lines 22-29) are arranged within the hose package and from Ueyama, a spirally curved welding wire in a wire guide bore of a conduit cable (Fig. 18, Col. 2 Lines 32-34) **except** the lines arranged within the hose package in addition to the wire guide hose and the lines being arranged within the spirally extending wire guide hose. Tomiyasu et al. discloses an arc welding cable where the conductors 5 (Fig. 1) are disposed in the wire hose. It would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify in Taylor/ Jeannette/Ueyama/ Bryce, the lines arranged within the hose package, as taught by Tomiyasu, for the purpose of having an additional conductors dispose in the hose package thereby easier to handle.

**12. Claims 8-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Taylor et al. (US 3,901,425) in view of Jeannette (US Pat. 3,384,778), Ueyama et al. (US Pat 4,102,483), Bryce et al. (US Pat 4,187,411) and further view of Parmelee et al. (US Pat. 4,731,518) (previously cited).**

**13.** Regarding claim 8, Taylor/ Jeannette/Ueyama/ Bryce disclose substantially all features of the claimed invention as set forth above **except** the wire guide hose arranged around the hose package. Parmelee et al. discloses a welding cable C (Fig. 1) is arranged around the power source PC (Fig. 1). It would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify in Taylor/ Jeannette/Ueyama/ Bryce, the wire guide hose is arranged around the hose package, as taught by Parmelee, for the purpose of providing a simple construction that is economical to manufacture and easy to weld with (Col. 2 Lines 50-53).

**14.** Regarding claim 9, Taylor/ Jeannette/Ueyama/ Bryce disclose substantially all features of the claimed invention as set forth above except for the wire guide hose arranged to helically extend about a carrier material independently of the hose package. Parmelee et al. discloses the power source PC (Fig. 1) is arranged helically extend about the welding cable C (carrier material, Fig. 1) independently. It would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify in Taylor/ Jeannette/Ueyama/ Bryce, the wire guide hose arranged to extend about a carrier material independently of the hose package, as taught by Parmelee, for the purpose of providing a simple construction that is economical to manufacture and easy to weld with (Col. 2 Lines 50-53).



**15. Claims 11 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Taylor et al. (US 3,901,425) in view of Jeannette (US Pat. 3,384,778), Ueyama et al. (US Pat 4,102,483), Bryce et al. (US Pat 4,187,411) and further view of Strybel (US Pat 4,458,719) (previously cited).**

**16.** Regarding claim 11, Taylor/ Jeannette/Ueyama/ Bryce disclose substantially all features of the claimed invention as set forth above except for the wire buffer storage is comprised of a structural unit comprising the wire guide hose, on which a terminal element, particularly a quick lock is arranged on either end, and the wire core. Strybel discloses a quick coupler service fitting for quick connection between a first coupler adapter to a service hose (Abstract). It would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify in Taylor/Jeannette/Ueyama/Bryce, to replace the screws 92 (Fig. 3) and 154 (Fig. 5) with the quick coupler, as taught by Strybel, for the purpose of allowing faster replacement or interchanging of the wire core.

**17.** Regarding claim 12, Taylor/ Jeannette/Ueyama/ Bryce disclose substantially all features of the claimed invention as set forth above except for the wire buffer storage is exchangeable without requiring any tool. Strybel discloses a quick coupler service fitting for quick connection between a first coupler adapter to a service hose (Abstract). It would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify in Taylor/ Jeannette/Ueyama/ Bryce, to replace the screws 92 (Fig. 3) and 154 (Fig. 5) by the quick coupler for changing the wire buffer storage without

Art Unit: 3742

requiring any tools by pressing a finger manipulation portion 52 (Fig. 2), as taught by Strybel, for the purpose of easy removing or replacing of the wire buffer as needed.

**18. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Taylor et al. (US 3,901,425) in view of Jeannette (US Pat. 3,384,778), Ueyama et al. (US Pat 4,102,483), Bryce et al. (US Pat 4,187,411) and further view of Huismann et al. (US Pat. No. 7,165,707) (previously cited).**

**19.** Regarding claim 13, Taylor/ Jeannette/Ueyama/ Bryce disclose substantially all features of the claimed invention as set forth above except for a guide element of the terminal element projects into a sensor for detecting the longitudinal movement of the wire core. Huismann et al. discloses a sensor for detecting the longitudinal movement of the wire core (Col. 6, Lines 54-62) to monitor the wire core movement. It would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify in Taylor/ Jeannette/Ueyama/ Bryce, a guide element of the terminal element projects into a sensor for detecting the longitudinal movement of the wire core, as taught by Huismann et al., for the purpose of providing a suitable sensor that can be used to control the wire feed motor with more precision.

**20. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Taylor et al. (US 3,901,425) in view of Jeannette (US Pat. 3,384,778), Ueyama et al. (US Pat 4,102,483), Bryce et al. (US Pat 4,187,411) and further view of Savard et al. (US Pat 2,964,612) (previously cited).**

**21.** Regarding claim 14, Taylor/ Jeannette/Ueyama/ Bryce disclose substantially all features of the claimed invention as set forth above **except** the wire guide hose is

performed in a spiral-shaped manner. Savard et al. discloses the electrodes made from two to three bare-surfaced wires twisted together in a spiral (Fig. 1- 4 and 8). It would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify in Taylor/ Jeannette/Ueyama/ Bryce, the wire hose is preformed in a spiral-shaped manner, as taught by Savard et al., for the purpose of allowing faster continuous electrode feed than compared to a stick electrode (Col. 4 Lines 50-53).

### ***Response to Arguments***

**22.** Applicant's arguments filed 10/04/2010 have been fully considered but they are not persuasive. The Applicants argued "Jeannette describes an apparatus for striking an arc of a welding apparatus ... Even if Jeannette would be considered by a person skilled in the art, it is respectfully submitted that only a wire core with a freely moveable end is disclosed in Jeannette without any context to a wire buffer storage and that there would be no reason to modify Taylor et al. as suggested by the Examiner from anything taught in Jeannette" on page 4-5 of the Remarks/Arguments. The examiner respectfully disagrees. As discussed in the Final Office action above, Taylor et al. discloses substantially all features of the claimed invention except the wire core with its other end being freely movable; a wire guide hose extending in a spiral shape manner; and wherein means for detecting the filling level or quantity of welding wire of the wire buffer storage are arranged, said detection means detecting the longitudinal movement of the wire core and, in particular, the free end of the wire core. Jeannette discloses the wire core 34 (Fig. 1) with its other end freely movable. Ueyama et al. discloses a wire guide hose extending in a spiral shape manner (Fig. 18; Col. 1, Lines 20-30; Col. 4, line 22-

Art Unit: 3742

35). It would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify Taylor et al., the wire core with its other end freely movable, as taught by Jeannette, for the purpose of forwarding and retracting the welding wire; to extend the wire hose in a spiral-shaped manner within the hose package, as taught by Ueyama et al., for the purpose of providing less contact area, less friction resistance and less wire guide load; and wherein means for detecting the filling level or quantity of welding wire of the wire buffer storage are arranged, said detection means detecting the longitudinal movement of the wire core and, in particular, the free end of the wire core, as taught by Bryce et al., for the purpose of determining how much welding wire is left. Jeanette reference is only used for teaching the missing limitation, "the wire core with its other end freely movable". Taylor et al. and Jeannette references are related to the same technical field. Therefore, one skill in the art would combine these references.

**23.** Applicants argued "it is respectfully submitted that Ueyama et al. fails to disclose or suggest a wire guide hose for the movement of a wire core in it which is arranged in a helic-shape or **spiral-shaped** manner ... especially of welding wires made of soft materials" on page 5 of the Remarks/Arguments. The Examiner respectfully disagrees. As discussed above, Ueyama et al. discloses a wire guide hose extending in a spiral shape manner (Fig. 18; Col. 1, Lines 20-30; Col. 4, line 22-35 "The welding wire 48 supplied normally in a curve state is guide through the wire guide bore 34 of the conduit cable 26 and it is fed in a **spiral** fashion along the inner surface of the wire guide bore 34"). Ueyama et al. reference is only used for teaching the missing limitation, "a wire

Art Unit: 3742

guide hose extending in a spiral shape manner". Taylor et al. and Ueyama et al. references are related to the same technical field. Therefore, one skill in the art would combine these references.

**24.** Applicants argued "Bryce et al., also relied on by the Examiner with respect to claim 1 and 15, simply shows an apparatus for consumable electrode inert gas shielded metal arc ... It is respectfully submitted that there is nothing in Bryce et al. that would lead one skill in the art to modify Taylor et al. so as to provide a buffer device as recited in Applicants' claims" on page 6 of the Remarks/Arguments. The Examiner respectfully disagrees. Bryce et al. is only used for teaching the missing limitation, "means for detecting the filling level or quantity of welding wire of the wire buffer storage are arranged, said detection means detecting the longitudinal movement of the wire core and, in particular, the free end of the wire core".

**25.** In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

**26. THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within

Art Unit: 3742

TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to HUNG NGUYEN whose telephone number is (571)270-7828. The examiner can normally be reached on Monday-Friday, 9M-6PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tu Hoang can be reached on (571)272-4780. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/HUNG NGUYEN/

/Quang T Van/

Application/Control Number: 10/551,945

Page 14

Art Unit: 3742

Examiner, Art Unit 3742  
12/9/2010

Primary Examiner, Art Unit 3742